# *Bibliography of Research Applications Using VA National Inpatient Databases*

## Veterans Affairs Information Resource Center
VA Information Resource Center (VIReC), Building 1, Room C303,
Hines VA Hospital (151V), 5th Avenue & Roosevelt Road, Hines, IL 60141-5000
E-mail:virec@research.hines.med.va.gov

## Introduction

VA Information Resource Center (VIReC) has developed a New Data User Tool Kit to assist new health services researchers and other new VA data users.

Below is a bibliography relating to VA inpatient databases that researchers may reference in their own research.

The list was compiled from PubMed (http://www.ncbi.nlm.nih.gov/PubMed/) by VIReC staff using "inpatient + database + veterans" as keyword search terms. **The search was performed September 2002.**

The list is organized by:
-**Author(s)**
-*Title*
-Medline Journal Abbreviation
-Publisher
-Abstract
-Link to PubMed entry with abstract ID, MeSH terms, and related articles

## Bibliography of Research Applications Using VA National Inpatient Databases

**Anderson BA, Howard MO, Walker RD, Suchinsky RT.**
Characteristics of substance-abusing veterans attempting suicide: a national study.
Psychol Rep 1995; 77(3 Pt 2):1231-1242.

Abstract: Demographic, diagnostic, and service utilization characteristics of veterans diagnosed with suicide attempt, substance dependence, both, or neither at discharge from Department of Veterans Affairs (DVA) hospitals in fiscal year 1994 (FY94) were compared using the DVA's discharge abstract database. Four groups of veterans were studied: (1) substance-abusing suicidal inpatients (n = 1,459), (2) substance-abusing nonsuicidal inpatients (n = 123,808), (3) nonsubstance-abusing suicidal inpatients (n = 632), and (4) nonsubstance-abusing nonsuicidal inpatients (n = 402,906). Substance-abusing suicidal veterans had higher rates of substance abuse than substance-abusing nonsuicidal veterans. Substance-abusing suicidal veterans had a higher mean number of inpatient treatment episodes and a larger proportion of discharges against medical advice than the other three inpatient groups. Psychiatric and substance use disorders are more prevalent among substance-abusing suicidal veterans than among veterans with only substance use disorders or suicidal conduct
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=8643788&dopt=r

**Andrews RD, Beauchamp C.**
 A clinical database management system for improved integration of the Veterans Affairs Hospital Information System.
 J Med Syst 1989; 13(6):309-320.

Abstract: The Department of Veterans Affairs (VA) Decentralized Hospital Computer Program (DHCP) contains data modules derived from separate ancillary services (e.g., Lab, Pharmacy and Radiology). It is currently difficult to integrate information between the modules. A prototype is being developed aimed at integrating ancillary data by storing clinical data oriented to the patient so that there is easy interaction of data from multiple services. A set of program utilities provides for user-defined functions of decision support, queries, and reports. Information can be used to monitor quality of care by providing feedback in the form of reports, and reminders. Initial testing has indicated the prototype's design and implementation are feasible (in terms of space requirements, speed, and ease of use) in outpatient and inpatient settings. The design, development, and clinical use of this prototype are described
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=2636966&dopt=r

**Ashton CM, Petersen NJ, Wray NP, Yu HJ.**
The Veterans Affairs medical care system: hospital and clinic utilization statistics for 1994.
Med Care 1998; 36(6):793-803.

Abstract: OBJECTIVES: The authors describe the role the Veterans Affairs (VA) medical system plays as a provider of clinic and hospital services by examining utilization levels and users' characteristics. METHODS: The Veterans Affairs hospital discharge database, the Veterans Affairs outpatient clinic files, and the veteran population files were used to estimate the number of persons using the Veterans Affairs medical care system in 1994 and the intensity of their clinic and hospital use. Demographic and clinical characteristics of users were tabulated. RESULTS: In 1994, 2.7 million veterans, 10.3% of all US veterans, and approximately 23% of veterans who would have met the statutory eligibility requirements for Veterans Affairs care, used the hospital and/or clinic components of the Veterans Affairs medical system. Sixty- three percent of the system's users were younger than age 65, and 10.5% were women. These 2.7 million veterans had 901,665 Veterans Affairs hospital stays, 15.5 million bed-days, and 31.2 million outpatient visits in fiscal year 1994. The average number of hospitalizations per hospital user was 1.71; the average number of visits per clinic user was 11.7. Medical, surgical, and psychiatric diagnosis-related groups (DRGs) accounted for 56%, 21%, and 23%, respectively, of hospitalizations, but psychiatric diagnosis-related groups accounted for 43% of all inpatient days. Principal medicine clinic visits and psychiatry clinic visits accounted for 21% and 16% of Veterans Affairs ambulatory care. CONCLUSIONS: Because the patient population served by the Veterans Affairs system is skewed in a number of ways, its contribution as a provider of health services in the United States varies by gender, age, socioeconomic status, and diagnosis
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=9630121&dopt=r

**Au DH, Curtis JR, Every NR, McDonell MB, Fihn SD.**
Association between inhaled beta-agonists and the risk of unstable angina and myocardial infarction.
Chest 2002; 121(3):846-851.

Abstract: BACKGROUND: beta-Adrenoceptor agonists (beta-agonists) are commonly used to treat obstructive lung diseases, and preliminary studies have suggested they are associated with an increased risk of adverse cardiovascular outcomes. We further examined the association between acute coronary syndromes and inhaled beta-agonist therapy. METHODS: We performed a nested, case-control study using data that were collected as part of a larger, ongoing, prospective study of quality improvement in the primary care clinics of seven Veterans Administration Medical Centers. We identified 630 patients with unstable angina or acute myocardial infarction hospitalized between 1996 and 1999. We frequency matched these case patients to 10,486 control subjects according to clinic location, and randomly assigned each an "index date." The computerized pharmacy database at each center was used to ascertain beta-agonist use. Cardiovascular risk factors were assessed from mailed questionnaires and electronic medical records, which included inpatient and outpatient diagnoses, medications, and laboratory results. RESULTS: In comparison with patients who had not filled a beta-agonist prescription during the 90 days prior to their index date, patients who had filled a beta-agonist prescription had an increased risk of experiencing an acute coronary syndrome. The increased risk

of an acute coronary syndrome persisted after adjusting for age and cardiovascular risk factors, including hypertension, diabetes, and smoking history. Moreover, there was a dose-response relationship with an adjusted odds ratio (OR) of 1.38 for one to two metered-dose inhaler (MDI) canisters (95% confidence interval [CI], 0.86 to 2.23), an OR of 1.57 for three to five MDI canisters (95% CI, 1.01 to 2.46), and an OR of 1.93 for six or more MDI canisters (95% CI, 1.23 to 3.03). After stratifying for receipt of a beta-blocker prescription, the adjusted OR in subjects who did not receive a beta-blocker was 1.55 for one to two MDI canisters (95% CI, 0.60 to 3.99), an OR of 4.07 for three to five canisters (95% CI, 2.17 to 7.64), and an OR of 3.83 for six or more canisters (95% CI, 2.02 to 7.29). Subjects who had received both beta-blockers and beta- agonists had no increase in risk in acute coronary syndromes unless they had filled six or more beta-agonist MDI canisters. CONCLUSIONS: A prescription for inhaled beta-agonists may increase the risk of myocardial infarction and unstable angina in patients with COPD
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=11888971&dopt=r


**Barnett PG, Rodgers JH.**
Use of the Decision Support System for VA cost-effectiveness research.
Med Care 1999; 37(4 Suppl Va):AS63-AS70.

Abstract: BACKGROUND: The Department of Veterans Affairs is adopting the Decision Support System (DSS), computer software and databases which include a cost-accounting system which determines the cost of health care products and patient encounters. OBJECTIVES: A system for providing cost data for cost-effectiveness analysis should be provide valid, detailed, and comprehensive data that can be aggregated. METHODS: The design of DSS is described and compared with those criteria. Utilization data from DSS was compared with other VA utilization data. Aggregate DSS cost data from 35 medical centers was compared with relative resource weights developed for the Medicare program. RESULTS: Data on hospital stays at 3 facilities found that 3.7% of the stays in DSS were not in the VA discharge database, whereas 7.6% of the stays in the discharge data were not in DSS. DSS reported between 68.8% and 97.1% of the outpatient encounters reported by six facilities in the ambulatory care data base. Relative weights for each Diagnosis Related Group based on DSS data from 35 VA facilities correlated with Medicare weights (correlation coefficient of .853). CONCLUSIONS: DSS will be useful for research if certain problems are overcome. It is difficult to distinguish long-term from acute hospital care. VA does not have a complete database of all inpatient procedures, so DSS has not assigned them a specific cost. The authority to access encounter-level DSS data needs to be centralized. Researchers can provide the feedback needed to improve DSS cost estimates. A comprehensive encounter-level extract would facilitate use of DSS for research
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=10217386&dopt=r


**Berlowitz DR, Young GJ, Brandeis GH, Kader B, Anderson JJ.**
Health care reorganization and quality of care: unintended effects on pressure ulcer prevention.
Med Care 2001; 39(2):138-146.

Abstract: BACKGROUND: Health care reorganizations, with a change in focus from inpatient to outpatient care, are becoming increasingly frequent. Little is known regarding how reorganizations may affect risk-adjusted outcomes for those programs, usually inpatient, that lose resources as a result of the change in organizational focus. OBJECTIVES: To determine changes in risk-adjusted rates of pressure ulcer development over an 8-year period, the final 3 of which were characterized by a significant reorganization of the health care system. DESIGN: This was an observational study that used an existing database. SUBJECTS: Subjects were residents of Department of Veterans Affairs long-term care units between 1990 and 1997 who were without a pressure ulcer at an index assessment. MEASURES: The study examined risk-adjusted rates of pressure ulcer development, and proportions of new ulcers that were severe (stages 3 or 4) were calculated for successive 6-month periods. RESULTS: Between 1990 and 1994, risk-adjusted rates of pressure ulcer development declined significantly, by 27%. However, beginning in 1995, rates began to increase, and in 1997 they were similar to those in 1990. The proportion of new ulcers that were severe increased significantly over time (P = 0.01). CONCLUSIONS: The reorganization of the VA that began in 1995, with its emphasis on outpatient care, was associated with an increase in rates of pressure ulcer development. This highlights the need to carefully monitor the quality of care in programs that may be losing resources as a result of the reorganization
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=11176551&dopt=r

**Bunn JY, Booth BM, Cook CA, Blow FC, Fortney JC.**
The relationship between mortality and intensity of inpatient alcoholism treatment.
Am J Public Health 1994; 84(2):211-214.

Abstract: OBJECTIVES. Previous studies have examined mortality in alcoholics receiving extended inpatient alcoholism treatment, but few have investigated less intense treatment. This study examined mortality within 3 years after discharge from varying intensities of inpatient alcoholism treatment. METHODS. Using the computerized database of the Department of Veterans Affairs, we identified men participating in varying intensities of inpatient alcoholism treatment and followed them for 3 years after discharge. Adjusted mortality rates were computed and survival analysis was performed to assess the risk of death, adjusting for factors that may be related to mortality. RESULTS. The death rate was lower for men who completed extended formal inpatient treatment than for those who began, but did not complete, inpatient treatment or those who underwent short detoxification. Differences among the treatment groups remained after age, race, marital status, and disease severity were controlled. CONCLUSIONS. These results suggest that extended formal inpatient alcoholism treatment is associated with a lower risk of death than less intense forms of inpatient treatment
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=8296942&dopt=r

**Desai MM, Rosenheck RA, Druss BG, Perlin JB.**
Receipt of nutrition and exercise counseling among medical outpatients with psychiatric and substance use disorders.
J Gen Intern Med 2002; 17(7):556-560.

Abstract: OBJECTIVE: Mentally ill persons represent a population that is potentially vulnerable to receiving a poorer quality of medical care. This study examines the relationship between mental disorders and the likelihood of receiving recommended nutrition and exercise counseling. DESIGN: Cross-sectional study combining chart-review data and administrative database records. SETTING: One hundred forty-seven Veterans Affairs (VA) medical centers nationwide. PATIENTS/PARTICIPANTS: The sample included 90,240 patients with obesity and/or hypertension who had >/=3 medical outpatient visits in the previous year. MEASUREMENTS AND MAIN RESULTS: The outcomes of interest were chart-documented receipt of nutrition counseling and receipt of exercise counseling in the past 2 years. This chart information was merged with VA inpatient and outpatient administrative databases, which were used to identify persons with diagnosed mental disorders. Most patients received nutrition counseling (90.4%), exercise counseling (88.5%), and counseling for both (85.7%) in the past 2 years. The rates of counseling differed significantly but modestly by mental health status. The lowest rates were found among patients dually diagnosed with comorbid psychiatric and substance use disorders; however, the magnitude of the disparities was small, ranging from 2% to 4% across outcomes. These results were unchanged after controlling for demographics, health status, and facility characteristics using multivariable generalized estimating equation modeling. CONCLUSIONS: Among patients engaged in active medical treatment, rates of nutrition and exercise counseling were high at VA medical centers, and the diagnosis of mental illness was not a substantial barrier to such counseling. More work is needed to determine whether these findings generalize to non-VA settings and to understand the potential role that integrated systems such as the VA can play in reducing disparities for vulnerable populations
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=12133146&dopt=r

**Desai RA, Rosenheck RA.**
The interdependence of mental health service systems: the effects of VA mental health funding on veterans' use of state mental health inpatient facilities.
J Ment Health Policy Econ 2000; 3(2):61-67.

Abstract: BACKGROUND: There are relatively few published data on how the financial structures of different health systems affect each other. With increasing financial restrictions in both public and private healthcare systems, it is important to understand how changes in one system (e.g. VA mental healthcare) affect utilization of other systems (e.g. state hospitals). AIMS OF THE STUDY: This study utilizes data from state hospitals in eight states to examine the relationship of VA per capita mental health funding and state per capita mental health expenditures to veterans' use of state hospitals, adjusting for other determinants of utilization. METHODS: This study utilized a large database that

included records from all male inpatient admissions to state hospitals between 1984 and 1989 in eight states (n = 152541). Funding levels for state hospitals and VA mental health systems were examined as alternative enabling factors for veterans' use of state hospital care. Logistic regression models were adjusted for other determinants of utilization such as socio-economic status, diagnosis, travel distances to VA and non-VA facilities and the proportion of veterans in the population. RESULTS: The single strongest predictor of whether a state hospital patient would be a veteran was the level of VA mental healthcare funding (OR = 0.81 per $10 of funding per veteran in the population, p = 0.0001), with higher VA funding associated with less use of state hospitals by veterans. Higher per capita state funding, reciprocally, increased veterans' use of state hospitals. We also calculated elasticities for state hospital use with respect to VA mental healthcare funding and with respect to state hospital per capita funding. A 50% increase in VA per capita mental health spending was associated with a 30% decrease in veterans' use of state hospitals (elasticity of -0.6). Conversely, a 50% increase in state hospital per capita funding was associated with only an 11% increase in veterans' use of state hospitals (elasticity of 0.06). IMPLICATIONS FOR HEALTH CARE PROVISION AND USE: These data indicate that per capita funding for state hospitals and VA mental health systems exerts a significant influence on service use, apparently mediated by the effect on supply of mental health services. Veterans are likely to substitute state hospital care for VA care when funding restrictions limit the availability of VA mental health services. However, due to the relative sizes of the two systems, VA funding has a larger effect than state hospital funding upon state hospital use by veterans. IMPLICATIONS FOR HEALTH POLICIES: These data indicate that changes in the organizational and/or financial structure of any given healthcare system have the potential to affect surrounding systems, possibly quite substantially. Policy makers should take this into account when making decisions, instead of approaching systems as independent, as has been traditional. IMPLICATIONS FOR FURTHER RESEARCH: Further research is needed in two areas. First, these results should be replicated in other systems of care using more recent data. Second, these results are difficult to generalize to individual behavior. Future research should examine the extent and individual determinants of cross-system use
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=11967439&dopt=r

**Druss B, Rosenheck R.**
Evaluation of the HEDIS measure of behavioral health care quality. Health Plan Employer Data and Information Set. Psychiatr Serv 1997; 48(1):71-75.

Abstract: OBJECTIVE: The Health Plan Employer Data and Information Set (HEDIS) is the most widely used "report card" system comparing health care plans across different dimensions of performance. HEDIS uses only one measure of the quality of behavioral health care-the rate of follow-up after hospitalization for major affective disorder. This study used data from a national Veterans Affairs database to evaluate the generalizability of the HEDIS behavioral health quality measure. METHODS: Using administrative data from a nationwide sample of 114 VA hospitals, the HEDIS (version 2.5) quality measure was compared with several related performance measures including readmission rates and outpatient follow-up rates for other psychiatric disorders and for substance use disorders. The magnitude and statistical significance of Pearson's r value for correlation between measures was calculated. RESULTS: The HEDIS measure was moderately correlated with 30-day follow-up after hospitalization for other psychiatric disorders and with other performance measures of outpatient care. However, it was poorly correlated with follow-up for substance use disorders, inpatient measures including readmission rates, and several other measures of quality. CONCLUSIONS: Caution is needed in drawing conclusions about the quality of behavioral health plans based on the single measure used in HEDIS, version 2.5. Inclusion of other performance measures may be warranted
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=9117504&dopt=r

**El Serag HB, Richardson PA, Everhart JE.**
The role of diabetes in hepatocellular carcinoma: a case-control study among United States Veterans.
Am J Gastroenterol 2001; 96(8):2462-2467.

Abstract: OBJECTIVE: Diabetes mellitus (DM) has been reported to increase the risk of hepatocellular carcinoma (HCC). We carried out a case-control study to examine the role of DM while controlling for several known risk factors of HCC. METHODS: All hospitalized patients with primary liver cancer (PLC) during 1997-1999 were identified in the computerized database of the Department of Veterans Affairs, the Patient Treatment File. Controls without cancer were randomly assigned from the Patient Treatment File during the same time period. The inpatient and outpatient files

were searched for several conditions including DM, hepatitis C virus (HCV), hepatitis B virus (HBV), alcoholic cirrhosis, autoimmune hepatitis, hemochromatosis, and nonspecific cirrhosis. Adjusted odds ratios (OR) were calculated in a multivariable logistic regression model. RESULTS: We identified 823 patients with PLC and 3459 controls. The case group was older (62 yr [+/-10] vs 60 [+/-11], $p < 0.0001$), had more men (99% vs 97%, 0.0004), and a greater frequency of nonwhites (66% vs 71%, 0.0009) compared with controls. However, HCV- and HBV-infected patients were younger among cases than controls. Risk factors that were significantly more frequent among PLC cases included HCV (34% vs 5%, $p < 0.0001$), HBV (11% vs 2%, $p < 0.0001$), alcoholic cirrhosis (47% vs 6%, $p < 0.0001$), hemochromatosis (2% vs 0.3%, $p < 0.0001$), autoimmune hepatitis (5% vs 0.5%, $p < 0.0001$), and diabetes (33% vs 30%, $p = 0.059$). In the multivariable logistic regression, diabetes was associated with a significant increase in the adjusted OR of PLC (1.57, 1.08-2.28, $p = 0.02$) in the presence of HCV, HBV, or alcoholic cirrhosis. Without markers of chronic liver disease, the adjusted OR for diabetes and PLC was not significantly increased (1.08, 0.86-1.18, $p = 0.4$). There was an increase in the HCV adjusted OR (17.27, 95% Cl = 11.98-24.89) and HBV (9.22, 95% CI = 4.52-18.80) after adjusting for the younger age of HCV- and HBV-infected cases. The combined presence of HCV and alcoholic cirrhosis further increases the risk with an adjusted OR of 79.21 (60.29-103.41). The population attributable fraction for HCV among hospitalized veterans was 44.8%, whereas that of alcoholic cirrhosis was 51%. CONCLUSION: DM increased the risk of PLC only in the presence of other risk factors such as hepatitis C or B or alcoholic cirrhosis. Hepatitis C infection and alcoholic cirrhosis account for most of PLC among veterans
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=11513191&dopt=r

**Finlayson SR, Stroupe KT, Joseph GJ, Fisher ES.**
Using the veterans health administration inpatient care database: trends in the use of antireflux surgery.
Eff Clin Pract 2002; 5(3 Suppl):E5.
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=12166926&dopt=r

**Halpern NA, Bettes L, Greenstein R.**
Federal and nationwide intensive care units and healthcare costs: 1986- 1992.
Crit Care Med 1994; 22(12):2001-2007.

Abstract: OBJECTIVES: To establish Department of Veterans Affairs' intensive care unit (ICU) costs from a database and to use this information to validate the Russell equation, the most commonly used method of calculating ICU costs. To compare and trend Department of Veterans Affairs' and nationwide (USA) ICU and healthcare costs. DESIGN: Comparison study. SETTING: Database analysis of Department of Veterans Affairs' and nationwide ICUs over a 6-yr period (1986-1992), with biennial evaluations. MAIN MEASURES: Costs and bed occupancies of Department of Veterans Affairs' and nationwide hospitals and ICUs, as well as United States national health expenditures and gross domestic product. RESULTS: Fifty percent to Department of Veterans Affairs' ICU funds were used for nurse and physician salaries. Department of Veterans Affairs' ICU direct and indirect cost ratios have remained constant (2:1). The Russell equation is valid, providing that the "inpatient only" cost variable is used. ICU costs were consistently lower in the Department of Veterans Affairs' than nationwide, as compared by the Russell equation. A smaller fraction of the hospital budget was allocated to the ICU in the Department of Veterans Affairs than in nationwide institutions. Despite an increasing nationwide ICU patient workload, the percentage of ICU fund allocations has not increased. Health care in the United States increases at a rate greater than the increase in gross domestic product. Healthcare delivery costs are increasing at a greater rate nationwide than in the Department of Veterans Affairs. The percentage increase in ICU cost per day, both in the Department of Veterans Affairs and nationwide, was less than the increase in healthcare costs. The percent of the gross domestic product, national health expenditure, and hospital cost used by the ICU has increased minimally during the course of this study. CONCLUSIONS: The Department of Veterans Affairs has the only national ICU line item cost database available. For the Russell equation calculation to be accurate, inpatient only costs should be used. Until customized Health Care Financing Administration analyses become available, nationwide ICU costs are best determined by the Russell equation. Department of Veterans Affairs' ICUs have a consistent cost advantage over nationwide ICUs. Increases in United States healthcare delivery costs continue to exceed the increase in gross domestic product. Cost containment is already occurring in critical care
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=7988140&dopt=r

**Kashner TM.**
Agreement between administrative files and written medical records: a case of the Department of Veterans Affairs.
Med Care 1998; 36(9):1324-1336.

Abstract: OBJECTIVES: This study examined the reliability of Department of Veterans Affairs' health information databases concerning patient demographics, use of care, and diagnoses. METHODS: The Department of Veterans Affairs' Patient Treatment files for Main, Bed-section (PTF) and Outpatient Care (OCF) were compared with medical charts and administrative records (MR) for a random national sample of 1,356 outpatient visits and 414 inpatient discharges to Department of Veterans Affairs' facilities between July 1 and September 30, 1995. Records were uniformly abstracted by a focus group of utilization review nurses and medical record coders blinded to administrative file entries. RESULTS: Reliability was adequate for demographics (kappa approximately 0.92), length of stay (agreement=98%), and selected diagnoses (kappa ranged 0.39 to 1.0). Reliability was generally inadequate to identify the treating bedsection or clinic (kappa approximately 0.5). Compared with medical charts, Patient Treatment Files/Outpatient Care Files reported an additional diagnosis per discharge and 0.8 clinic stops per outpatient visit, resulting in higher estimates of disease prevalence (+39% heart disease, +19% diabetes) and outpatient costs (+36% per unique outpatient per quarter). CONCLUSIONS: In the absence of pilot work validating key data elements, investigators are advised to construct health and utilization data from multiple sources. Further validation studies of administrative files should focus on the relation between process of data capture and data validity
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=9749656&dopt=r

**Kirchner JE, Booth BM, Owen RR, Lancaster AE, Smith GR.**
Predictors of patient entry into alcohol treatment after initial diagnosis.
J Behav Health Serv Res 2000; 27(3):339-346.

Abstract: To improve the quality of care for alcohol-related disorders, key transitions in the continuum of care, including treatment entry, must be fully understood. The purpose of this study was to investigate identifiable predictors of patient entry into a substance-use treatment program following the initial diagnosis of an alcohol-related disorder on a medical or surgical inpatient unit. An administrative computerized database was used to identify the sample for this study. Inpatient and outpatient records were obtained from the Little Rock VAMC/DHCP. Predictors of patient entry into treatment within six months of the initial diagnosis of an alcohol related disorder included age younger than than 60 (odds ratio [OR] = 4.6), not married (OR = 1.7), primary diagnosis of an alcohol-related disorder (OR = 7.7), diagnosis of a comorbid drug (OR = 4.3) or psychiatric disorder (OR = 3.6), diagnosis by a medical as opposed to a surgical specialty (OR = 6.0), and African American (OR = 1.7)
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=10932447&dopt=r

**Leslie DL, Rosenheck RA.**
Comparing quality of mental health care for public-sector and privately insured populations.
Psychiatr Serv 2000; 51(5):650-655.

Abstract: OBJECTIVE: This study examined the methodological difficulties of comparing quality of care in large health care systems. It demonstrated methods for measuring quality of mental health care and, using these measures, compared patients from Department of Veterans Affairs (VA) hospitals with privately insured patients. METHODS: Individuals receiving VA inpatient mental health care during the first six months of each fiscal year from 1993 to 1997 were identified from discharge abstracts. A similar cohort of privately insured individuals was identified using MEDSTAT's MarketScan database from 1993 to 1995. Individuals in both cohorts were tracked for six months after discharge. Length of stay, readmission rates, and access to outpatient services were calculated. RESULTS: The private sector outperformed VA on most quality measures, although differences were modest and can likely be explained by the greater severity of illness and social disadvantages of VA patients. Readmission rates increased considerably over time in the private sector, whereas they declined for VA patients. Quality measures varied by diagnosis, with VA performing better than the private sector in treating patients diagnosed with substance abuse and mental disorders not elsewhere classified but worse in treating patients diagnosed with depression. CONCLUSIONS: Although the private sector modestly outperformed VA on most quality measures, VA treats a more troubled population, and it improved markedly over time compared with the private sector. As health systems strive to reduce costs of care, methods for

comparing and evaluating the quality of care become increasingly important. However, methodological challenges remain substantial
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=10783185&dopt=r

**Lloyd EE, Toth LL, Rogers S.**
Development and testing of computer software for nursing assessment and care planning at a spinal cord injury center.
SCI Nurs 1994; 11(3):74-77.

Abstract: This paper describes a pilot project using a Macintosh personal computer and customized software to computerize nursing admission assessment and care planning data. The project setting is a 47-bed Spinal Cord Injury Center with two inpatient units and an outpatient department serving approximately 1,000 patients with spinal cord injury at a Department of Veterans Affairs Medical Center in northern California. The computer software development, implementation, and evaluation are described. This software (MacNursing) was found to be a low cost, customized approach to computerizing spinal cord injury admission assessment data and care planning which reduces repetitive writing and facilitates continuity of care. Personal computers and this software have provided the mechanism for establishing a spinal cord injury patient database
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=7792572&dopt=r

**Mahan CM, Bullman TA, Kang HK, Selvin S.**
A case-control study of lung cancer among Vietnam veterans.
J Occup Environ Med 1997; 39(8):740-747.

Abstract: Because of concerns among veterans over Agent Orange exposure, the Department of Veterans Affairs (VA) has conducted a series of studies of specific cancers among Vietnam veterans. Lung cancer is the topic of investigation in this report. The VA's Patient Treatment File (PTF) was used to identify 329 Vietnam era veterans with a diagnosis of lung cancer made between 1983 and 1990. The PTF is a computerized hospitalized database of inpatient records, including patients' demographic data, and diagnoses. A record is created for each patient discharged from any one of the VA's Medical Centers. Variables abstracted from the military record include education, race, branch of service, Military Occupational Specialty Code, rank, and units served within Vietnam. Two hundred sixty-nine controls were randomly selected from the PTF file of men hospitalized for a reason other than cancer. A second control group numbering 111 patients with colon cancer was also selected from the PTF file. Data were also gathered on exposure to Agent Orange through the location of each individual ground troop veteran's unit in relation to an area sprayed and the time elapsed since that area was sprayed. The crude odds ratio between service in Vietnam and lung cancer was of borderline significance (odds ratio = 1.39 with 95% confidence interval = 1.01-1.92). The relationship disappeared when the confounder year of birth was considered. We conclude from these data that there is no evidence of increased risk in lung cancer associated with service in Vietnam at this time
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=9273878&dopt=r

**Mole L, Ockrim K, Holodniy M.**
Decreased medical expenditures for care of HIV-seropositive patients. The impact of highly active antiretroviral therapy at a US Veterans Affairs Medical Center.
Pharmacoeconomics 1999; 16(3):307-315.

Abstract: OBJECTIVE: To identify any changes in expenditures and in morbidity and mortality with the progression of treatment of the HIV-seropositive population from monotherapy with a nucleoside reverse transcriptase inhibitor (NRTI) [1993] through dual NRTI therapy (1995) to highly active antiretroviral therapy (HAART) [1997]. DESIGN AND SETTING: This study retrospectively compared 3 separate years of the total expenditures encountered in the management of HIV-seropositive individuals seen at a US Veterans Affairs Medical Center. INTERVENTIONS: Utilising a computerised hospital database, we identified those patients with HIV-related International Classification of Diseases, version 9 (ICD-9) codes and collected all healthcare-related expenditure data. The 3 eras selected for comparison were controlled for similar utilisation of prophylaxis against opportunistic infections, access to investigational antivirals, consistency between primary care providers and distribution of new anti-HIV therapies

relative to that era. Cost data for inpatient and outpatient activities (visits and admissions) were derived from actual expenditures. Major categories were then compared, including total inpatient/outpatient expenditures and utilisation, laboratory and prescription costs, and morbidity and mortality rates. MAIN OUTCOME MEASURES AND RESULTS: The 3 periods had similar patient populations, with 86, 86 and 82% of patients in 1993, 1995 and 1997, respectively, having some degree of immunosuppression (defined as CD4+ lymphocyte counts < 500 cells/mm3). Morbidity and mortality were not changed by the addition of dual NRTI therapy. HAART therapy produced 60 and 70% declines in relative mortality when compared with the single and dual NRTI eras. Dual NRTI or HAART therapy decreased overall expenditures as compared with NRTI monotherapy. HIV-related outpatient resource utilisation other than pharmacy and laboratory costs fell by 25 and 59% in 1997 as compared with 1993 and 1995, respectively. The greatest fall in resource utilisation was for inpatient bed-days of care, where the average cost per patient fell by $US2782 between 1993 and 1997. Pharmacy and laboratory expenditures increased by $US1825 and $US231 per patient from 1993 to 1997, respectively. Overall, the impact of HAART was a decrease of $US1193 in the average total cost per patient from 1993 to 1997. CONCLUSIONS: The introduction of HAART provided a positive outcome on patient morbidity and mortality and on medical centre expenditures. The end result was a cost shift of expenditures from inpatient utilisation to outpatient pharmacy and laboratory costs. This information is important for patients and providers, who need to make clinical decisions on lifelong therapies, and for healthcare financial planners, who need to predict inpatient and outpatient healthcare utilisation during an era of limited healthcare dollars
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=10558042&dopt=r


**Smith ME, Sheldon G, Klein RE, Feild T, Feitz R, Stockford D et al.**
Data and information requirements for determining veterans' access to health care.
Med Care 1996; 34(3 Suppl):MS45-MS54.

Abstract: The Department of Veterans Affairs (VA) is responding to changing requirements for decision-support data by maximizing the value of data contained in VA and non-VA sources. The data are used to answer questions relating to the accessibility and utilization of VA and non- VA health services. Access studies require accurate estimates of the number of persons served and the number of persons who could be served. To derive these population estimates, VA employs census data to develop projections of the veteran population at the national, state, and county levels. Data from many surveys are used to supplement the census data. Access studies also require quantitative and qualitative data on the characteristics of VA and non-VA health care delivery systems at the national, state, and local levels. The Department of Veterans Affairs obtains health care system data from external sources, including the US Department of Health and Human Services, the American Medical Association, and the American Hospital Association, and from internal sources, including VA surveys and the VA administration inpatient and outpatient files. Utilization studies need more detailed patient-level information than access studies. Data elements pertaining to the reason for health care encounters and the services rendered are obtained from survey data, the VA inpatient and outpatient administration files, the national Medicare database, and state Medicaid databases. The Department of Veterans Affairs' decision-support analyses for eligibility reform and health care system reform demonstrate the effectiveness of VA in analyzing data from many sources
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=8598687&dopt=r


**Weaver FM, Burdi MD, Pinzur MS.**
Outpatient foot care: correlation to amputation level.
Foot Ankle Int 1994; 15(9):498-501.

Abstract: A retrospective analysis of Department of Veterans Affairs automated inpatient and outpatient records was performed for 3945 patients who underwent lower extremity amputation surgery due to peripheral vascular disease during fiscal year 1991. Demographic and clinical data were collected from reviewing patient database information for all Department of Veterans Affairs Hospitals nationwide. Patients were identified from the Physicians' Current Procedural Terminology codes for lower extremity amputations, and then divided into three groups (above the knee, below the knee, and foot and ankle) based on the most proximal level of amputation performed. Results indicate that increased use of designated foot care clinics was significantly associated with more distal level amputation surgery. Patients with above-the-knee amputations averaged 1.0 foot care clinic visit in the 2 years prior to amputation, whereas below-the-knee and foot and ankle amputees averaged 2.8 and 5.3 foot care clinic visits, respectively ($F[df = 2,3939] =$

94.20, P < .05). The same finding was noted when only users of foot care clinics were examined. Patients with a codiagnosis of diabetes were more likely to undergo distal amputation than those with other diagnoses (P < .05). The results of this study suggest the potential effectiveness of designated foot care clinics in preserving limb length in individuals with peripheral vascular disease and diabetes
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=7820243&dopt=r


**Weiss TW, Ashton CM, Wray NP.**
Forecasting areawide hospital utilization: a comparison of five univariate time series techniques.
Health Serv Manage Res 1993; 6(3):178-190.

Abstract: Time series analysis is one of the methods health services researchers, managers and planners have to examine and predict utilization over time. The focus of this study is univariate time series techniques, which model the change in a dependent variable over time, using time as the only independent variable. These techniques can be used with administrative healthcare databases, which typically contain reliable, time-specific utilization variables, but may lack adequate numbers of variables needed for behavioral or economic modeling. The inpatient discharge database of the Department of Veterans Affairs, the Patient Treatment File, was used to calculate monthly time series over a six-year period for the nation and across US Census Bureau regions for three hospital utilization indicators: average length of stay, discharge rate, and multiple stay ratio, a measure of readmissions. The first purpose of this study was to determine the accuracy of forecasting these indicators 24 months into the future using five univariate time series techniques. In almost all cases, techniques were able to forecast the magnitude and direction of future utilization within a 10% mean monthly error. The second purpose of the study was to describe time series of the three hospital utilization indicators. This approach raised several questions concerning Department of Veterans Affairs hospital utilization
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=10128826&dopt=r


**Wenzel GR.**
Redesigning a risk-management process for tracking injuries.
J Healthc Qual 1998; 20(1):6-9.

Abstract: The changing responsibilities of registered nurses are challenging even the most dedicated professionals. To survive within her newly-defined roles, one nurse used a total quality improvement model to understand, analyze, and improve a medical center's system for tracking inpatient injuries. This process led to the drafting of an original software design that implemented a nursing informatics tracking system. It has resulted in significant savings of time and money and has far surpassed the accuracy, efficiency, and scope of the previous method. This article presents an overview of the design process
http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m&form=6&uid=10177018&dopt=r